

IN THE ABSTRACT

Please delete the abstract in its entirety, and substitute the following:

--An optical identification element having a synthesized chemical attached thereto includes an optical substrate having at least one diffraction grating disposed therein, the grating having a resultant refractive variation at a grating location, said grating being embedded within a substantially single material of said optical substrate; the grating providing an output optical signal indicative of a code when illuminated by an incident light signal propagating in free space, the code identifying at least one of the element and the chemical, the output signal not being a result of laser action with the grating when illuminated by said incident light signal; and the synthesized chemical being attached to the substrate.--